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Report of the External Evaluation Panel

Orientation and Review of Proposals, 1990

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TropSoils

The Soil Management
Collaborative Research
Support Program

Background

The reconstituted External Evaluation Panel of the TropSoils CRSP has met with the Director of the TropSoils Management entity twice in the past several months to become better acquainted with TropSoils programs and projects. The first meeting was held June 18 in the A.I.D. Office of S&T/AGR in Rosslyn, Virginia. This meeting also included the A.I.D. TropSoils CRSP Manager, Dr. John L. Malcolm. The meeting was devoted mainly to a briefing provided by Drs. Hanson and Malcolm on the current status of the CRSP, with special regard to the direction/goals for the next five years and the options for research and operations under prospective funding levels. The second meeting was held August 23-24 in Borlaug Hall, University of Minnesota, St. Paul, Minnesota. This two-day meeting was devoted to in-depth discussions and analyses of previously distributed proposals for (1) prime sites, (2) research projects to be conducted by principal investigators of participating universities, (3) cross-cutting research projects to be conducted by researchers of several/all participating universities, (4) prime-site backstopping, (5) COM-01, and (6) operation of the Management Entity and discussion of general CRSP-related topics, such as other sources of funding research projects.

The meetings were quite helpful in that the members of the EEP gained some knowledge of the CRSP's research programs, achievements, current operations, funding levels, problems, and prospects; however, two meetings and intensive review of program documents are insufficient to provide an adequate understanding of the TropSoils CRSP. The EEP members will be able to learn more when they are afforded opportunities to visit participating U.S. and host country institutions/research sites, meet with principal investigators and their colleagues, and observe research under way. Notwithstanding, the Panel has gained several impressions.

Achievements

TropSoils, its predecessor A.I.D.-supported projects, and others, including the participating universities, have conducted tropical-soils research investigations for several decades or more. With regard to outcomes of these long-term investigations, the EEP notes several things: (1) the broad outlines of soil-management methods for sustained, productive use of soil, water, and crop plants under tropical high rainfall, savanna, and semi-arid conditions have been developed and are available for local adaptation and use; (2) commendable progress has been made in developing a decision support system (ACID4) for dealing with soil acidity problems; (3) critical research information for other decision support systems has been and is being obtained; and (4) an available pool of outstanding scientists who are knowledgeable and experienced in management of tropical soils exists in the TropSoils universities.

Prime Sites and Reduced Budgets

It seems clear that TropSoils will have difficulty maintaining a global soil-management research program through its present prime-site mode of operation. While the prime-site mode may be best for soil-management research under adequate funding, three prime sites—which seems to be the minimum desirable number for a global program—appear to be beyond the capacity of TropSoils under present and prospective funding.

The several entities of TropSoils—the Board of Directors, the Technical Committee, the Principal Investigators (U.S. and foreign), and the Management Entity—may wish to consider shifting to some other global mode of operations which can be conducted under reduced A.I.D. funding (by adopting the mode of the Bean/Cowpea CRSP or by locating prime sites in areas where operations can be conducted with or through other international agencies).

International Agricultural Research and TropSoils

Decreased A.I.D. funding for the TropSoils CRSP gives urgency to the need for TropSoils to determine its role—its niche—in the evolving international agricultural research system. Since TropSoils became active under Title XII, a number of increasingly important international soils research and assistance groups (e.g., IBSRAM, SMSS, TMSS, and TSBF) have joined the existing IARCs, international agencies, and bilateral

programs that are engaged in or supporting tropical research. Given funds incapable of maintaining the independence of prime sites, TropSoils authorities may wish to consider prime sites at strategically located IARCs similar to IFDC or to consider developing joint regional programs with IFDC and/or IBRSAM or TSBF (IFDC has a regional headquarters in Togo and fertilizer research sites in three West African countries as well as elsewhere; IBRSAM, headquartered in Bangkok, has soil research sites in East and West Africa and in Asia). Or TropSoils might wish to consider working with a consortia of nations involved in regional agricultural research similar to INTSORMIL's training program with SACCAR in southern Africa. There are several such consortia operating in areas of the world where TropSoils is involved or has an interest. The ME director's efforts to incorporate the Soil Management CRSP expertise in training and collaborative soil-management support into the SECID Zaire project is a move in the right direction. TropSoils graduate students would likely receive a warm welcome by the IARCs.

With a relatively small \$2-3 million program and the advent of well-funded international soils programs that are becoming deeply involved in tropical soils research and improvement, TropSoils without adequate U.S. funding is at risk of becoming irrelevant internationally unless it finds a way to continue to contribute substantially to the management of tropical soils.

Project Proposals

The EEP notes the obvious, commendable, concerted effort of the four participating universities to move their research findings of past years to the payoff stage, i.e. use by farmers/land users. The set of project proposals for the next five years would generate data to fill information gaps in promising TropSoils technologies and accelerate the development of reliable, improved soil-management methodologies and recommendations, including data needed for widely applicable decision support systems for nitrogen and phosphorus use and for amelioration of the adverse effects of soil acidity. CRSP-wide, this is a laudable effort on the part of TropSoils' principal investigators, and they deserve full support for their proposed endeavors; but funding reality means less than full support and forces invidious choices between and among projects/prime sites.

The present status and problems facing the CRSP are evident by the large differ-

ence between budget requests and the funds predicted to be available for the 1990-91 year. Total budget requests amount to \$3,435,988.00, whereas the budget projected by USAID for 1990-91 is \$2,100,000.00. If the primary research-site operations and campus backstopping program were fully funded, and if the Communications, Management Entity, and necessary program management activities were added in, only \$599,233 would be left to support research proposed under the global thrusts and cross-cutting projects. This amount will provide financing for less than one-third of these projects.

After discussions of the financial stress that the CRSP will face, the EEP agreed on the following general recommendations and comments:

1. The CRSP should seriously consider phasing out the primary sites within a period of three years. If they are not, the costs of operating these sites will eventually equal or exceed the total budget, whereas the only way to operate is to keep a substantial portion of funds going into research and communication projects. Thus, eventually the CRSP has to operate in a different mode, and this change should be phased in soon, with the reallocation of one primary-site funding in each of the next three years. One alternative to primary-site phase out that should be explored is to determine if USAID/missions and/or regional bureaus might wish to provide the necessary resources for maintaining a primary-site or in-residence research coordinator.

The advantages of phasing out core funding of the primary sites are not only that funds will be available for research projects; research leaders and P.I.'s would also be forced to seek out collaborators with whom to cooperate, either in the humid tropics or in the SAT.

2. The CRSP needs to shift to a more collaborative mode in which researchers in institutes in humid tropical or SAT areas are thoroughly involved in planning and conducting research. A more serious follow up or linkage with former Ph.D. students from tropical countries could be part of this collaborative mode of operations. The EEP feels that truly collaborative projects are needed for the CRSP to survive. One specific example is NCSU-05, "Technical Support for Research Network in the Humid Tropics," listed under Outreach.

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3. There is a strong flavor of independence in too many of the individual projects. The CRSP needs to work for more cooperative projects between or among scientists at the four U.S. universities; it should look for ways to combine projects that focus on the same objectives. For example, all projects that deal with soil-plant-water relationships and water-use efficiency could be combined into one project.

There are five or more projects that deal with soil toxicities (acid soil components). If acid soils are a constraint and if two or more universities are involved, the participants should get together and produce a joint project. An alternative to a joint project could be a committee that would coordinate the approach and summarize the results.

4. The CRSP should consider linking or collaborating with international centers such as ICRISAT, IITA, IRRI, IFDC, CIAT, CIMMYT, and ICRAF. The general Memorandum of Understanding (MOU) method developed with IITA and under consideration with IRRI appears to be an excellent system to follow. Such cooperation could be one result of core-funding phase-out of the primary overseas sites. Also, interCRSPing opportunities being purposed by the CRSP Council should be pursued along with potential linkages with IBSRAM and ISBF.
5. Some projects are lacking in detail and should be sent back to be completed. More information is needed about what is to be done and with whom, what country is to be the host, who is to be the cooperating P.I., etc.
6. The PDSS should be supported, but the NDSS should be encouraged to focus on the preparation of a document (report) summarizing what has been done at IFDC and other organizations and should delay the development of a computer expert system. This will allow reduction in the budget for NDSS for the 1990-91 year with the idea that more resources will be available in future years to focus on the N program.
7. Funding for the TLIS-01, "Nutrient Efficiency in Low-Input Systems," should be delayed until more funds become available for research projects, allowing other

ongoing projects to continue towards maturity. In the meantime, this project should be rewritten, providing more details in the review of previous research and in the plan of research. Also, details of how this project will be a cooperative joint effort among four universities need to be added. The TNRM-01 project was not received in its entirety and, therefore, could not be reviewed. The CRSP must develop strong natural-resource management initiatives.

8. Some project leaders should be encouraged to look for support from other sources. Possibilities for funding should be explored with other organizations and the effort in preparing a proposal expended if a positive response is obtained. The time has come for this CRSP to function as a consortium in seeking global thrust funding. It is this mode that can attract funding.
9. The EEP recommends that one or more of its members 1) conduct reviews of Yurimaguas in the 1990-91 project year, 2) conduct reviews of other sites in coming years, and 3) visit campuses to interview research leaders and campus personnel. These reviews or visits will allow members to become better acquainted with projects and personnel and thus promote more meaningful input into the CRSP.

General Observations

When considering problems and opportunities, researchers must carefully review the problems associated with the deforestation of the Amazon. It is possible that Brazil and Peru might handle their own problems. More advanced problems exist in Asia and Africa as a result of greater pressure on the soil systems.

One problem the CRSP might be functioning under is the dominance of both the Technical Committee and Board of Directors by the U.S. institutions. It is not clear to EEP how the host country's participation in planning comes into play. Perhaps a Technical Council system should be reviewed to provide a broader technical base.